

### REMARKS

This is in response to the Office Action of April 16, 2007. Claim 17 is amended based upon disclosure in paragraph [0033] of the specification (“the bottom of the constraint fixture comprises a metal plate or ring-shaped disk that has perforations in the area upon which the carbon matrix fibers are placed”). This amendment clarifies the meaning of the term “perforated” in the phrase “perforated annular ejector plate”. Claims 9 and 17 are also amended as kindly suggested by the Examiner in order to overcome a formal rejection of the claims. No new matter is introduced by this Amendment. Claims 9, 12, and 15-17 are before the Examiner for reconsideration.

### FORMAL REJECTION

Claims 9, 12, and 15-17 were rejected under the second paragraph of 35 U.S.C. § 112 as failing to define the invention properly. Office Action, pages 2-3. It is respectfully submitted that claims 9 and 17 have been amended in accordance with the Examiner’s kind suggestions, thereby obviating this ground of rejection.

### REJECTIONS OVER SNYDER

Claims 9, 12, 15, and 16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over US 5,686,117 (Snyder) in view of US 3,991,248 (Bauer). Office Action, pages 6-8. Claim 17 was rejected as being unpatentable over Snyder in view of US 2003/0214081 (Ockers). Office Action, pages 9-10. All of these claims now require – among many other things – the use of “a perforated annular ejector plate that has perforations in the area upon which carbon matrix fibers are placed.” The Examiner acknowledges, on page 7 of the Office Action, that “Snyder et al. do not teach employment of a perforated ejector plate comprising perforations in the area upon which the carbon fiber material is placed.” Also, on page 14 of the Office Action, the Examiner kindly indicated that “the amendment to claim 9 has appropriately and clearly clarified the scope of the perforated ejector plate to include perforations in the area upon which the carbon

fibers are placed and that this limitation does not appear to be taught by Snyder. Applicant is encouraged to clarify the scope of claim 17 accordingly to overcome the rejection of Snyder in view of Ockers.” Accordingly, withdrawal of the rejections based upon the Snyder reference are in order and are earnestly solicited.

## REJECTIONS OVER HECHT

Claims 9, 12, 15, and 16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over US 5,654,059 (Hecht) in view of US 3,991,248 (Bauer). Office Action, pages 3-6. Claim 17 was rejected as being unpatentable over Hecht and Bauer in view of US 2003/0214081 (Ockers). Office Action, pages 10-13. The rejections are respectfully traversed.

Before discussing the specifics of these rejections, it is appropriate to consider the legal standard that must be used to support an obviousness rejection. In the recent decision of the Supreme Court in *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 82 USPQ 1385 (U.S. 2007), the holding of the Court makes it clear that simply showing that all of the elements of the application/patent claim are present in the prior art does not necessarily mean that an invention is obvious. The Court states that “... a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” and that “This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known.” Part of the obviousness inquiry here must be a consideration of whether there is a reason for the person of ordinary skill in the art to do what is claimed. Accordingly, in general it is important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way they are combined in a claimed new invention.

One feature of the presently claimed invention is expressly recited in the present claims is removing the constraint fixture containing the compacted fibrous materials from the mold apparatus and subjecting the materials in the constraint fixture to densification by one or more of Resin Transfer Molding, resin or pitch infiltration, and Carbon Vapor Deposition to produce a

brake friction component preform. The Examiner relies upon Bauer to suggest this step. What Bauer teaches is that “it is preferable to remove the bonded substrate from the compression fixture and accomplish the densification step with the bonded substrate in a freestanding condition.” Column 12, lines 13-16. In the words of the Supreme Court, part of the obviousness inquiry must be a consideration of whether there is a reason for the person of ordinary skill in the art to do what is claimed. Bauer teaches that it is preferable to densify materials outside of the constraint feature. What reason is there for a person of ordinary skill in the art, first, to change the Hecht technology in view of the Bauer disclosure, and, second, to disregard what Bauer teaches to be the preferable approach?

Another feature of the invention of claims 9, 12, 15, and 16 which the Examiner admits is not present in either the Hecht disclosure or the Bauer disclosure is “compressing said carbon fiber materials at a pressure of about 3-10 atmospheres to form a fibrous matrix and to compact them to a density suitable for densification”. The Examiner refers to “optimization.” However, that refers to finding the most suitable parameters within a prior art disclosure. The Examiner has not shown that Hecht and/or Bauer teach pressures that encompass or overlap the claimed range of 3-10 atmospheres.

Similarly, claim 17 expressly requires “preheating the compacted fibrous materials to a temperature between about 290°C and 425°C and heating the mold in which Resin Transfer Molding takes place to a temperature between about 280°F and 590°F.” The Examiner has combined three references to reject claim 17, but the Examiner still has not shown that the recited temperature ranges are within a prior art disclosure. The Examiner cites a general principle from the MPEP in support of this rejection, but that general principle assumes that a recited temperature has been shown to be “encompassed by the prior art.” No such showing has been made here.

Withdrawal of the rejections over the Hecht reference is in order and is earnestly solicited.


CONCLUSION

Withdrawal of all rejections of record – and passage of this application to Issue – are respectfully requested. The Examiner is invited to telephone Richard Gallagher (Registration No. 28,781), at (703) 205-8008, with any questions concerning this application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

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